

NEW VASCULAR PLANT RECORDS FOR SOUTH DAKOTA

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ABSTRACT

Twelve vascular plant taxa new to South Dakota are reported for the first time. Three of the species are exotic and recently adventive to the state whereas the remainder are native to the region and have simply not been previously documented for South Dakota. Citation of voucher specimens and regional geographical accounts are provided for each species.

RESUMEN

Se citan doce nuevos taxa de plantas vasculares de Dakota del Sur. Tres de las especies encontradas son exóticas y llegadas recientemente a Dakota del Sur, mientras que el resto son naturales de la región y no han sido documentadas anteriormente. Se hacen citas de especímenes restigo y se aportan descripciones regionales geográficas para mostrar la procedencia de cada especie.

KEY WORDS: Vascular plants, South Dakota, flora

Field and herbarium research conducted at South Dakota State University have led to the discovery of twelve vascular plant taxa not previously recorded for the state. These are species omitted from prior treatments covering the South Dakota flora either entirely or in part, including Saunders (1899), Over (1932), Rydberg (1932), Dorn (1977), Great Plains Flora Association (1986), and Van Bruggen (1996). Publication of these new records serves to update distributional accounts of these species, such as those provided by the USDA NRCS PLANTS Database (<http://plants.usda.gov/>), and is intended to augment general knowledge of South Dakota's vascular flora. Voucher specimens documenting these findings are deposited in the C. A. Taylor Herbarium at South Dakota State University (SDC), with duplicates traded to other regional herbaria, including North Dakota State University (NDC), the Rocky Mountain Herbarium (RM), and the University of Kansas (KANU). The newly discovered taxa for South Dakota and their documentation are as follows:

Apera interrupta (L.) P. Beauv. (Poaceae), dense silkybent. *Apera interrupta* is an annual grass introduced from Europe that typically occurs in disturbed habitats. It is naturalized in all states west of the Great Plains and in British Columbia (USDA NRCS 1999) and has otherwise been recorded at scattered locations in eastern North America. Barkworth et al. (2007) describe the grass as "a weed in lawns, grain fields (especially winter wheat), sandy open ground, and roadsides." The South Dakota record is likely attributable to introduction as a contaminant in grass seed since it occurred in a recently planted area of the abandoned Gilt Edge Gold Mine in the northern Black Hills. The Black Hills State University Herbarium Database (2009) includes two records of this species from Crook Co., WY, and thus a South Dakota occurrence is not unexpected and represents an eastward extension of its range.

Voucher specimen: **SOUTH DAKOTA. Lawrence Co.:** 44.33°, -103.66°, uncommon on east-facing slope of waste rock repository cap, second season after seeding, 28 Jun 2005, Gary E. Larson 11268.

Azolla mexicana Presl (Azollaceae), Mexican mosquitofern. This is a small, surface-floating aquatic fern that propagates vegetatively to form floating mats much like common duckweed. This species is otherwise known from Nebraska and Minnesota, and so this record represents a northward and westward extension of its range. It may be introduced into our range on a seasonal basis by migrating waterfowl.

Voucher specimen: **SOUTH DAKOTA. Aurora Co.:** T 103N, R 65W, Sec. 35, NE ¼; floating in shallow marsh on north side of fence dividing a semipermanent wetland, 11 Aug 1997, *Edward S. DeKeyser and Cami Dixon 24*.

Carex leavenworthii Dewey (Cyperaceae), Leavenworth's sedge. According to Kaul et al. (2006), *C. leavenworthii* has been recorded for Cedar County, Nebraska, across the Missouri River from Clay County, South Dakota, and so this occurrence represents a minor northward extension of its range.

Voucher specimen: **SOUTH DAKOTA. Clay Co.:** 42.77°, - 97.12°; Myron Grove, old floodplain forest remnant on Missouri River floodplain, shaded understory; common (*Gary E. Larson 11300*, 19 Jun 2008).

Carex pseudocyperus L. (Cyperaceae), cypresslike sedge. Apparent hybrids with bottlebrush sedge (*C. hystericina* Muhl. ex Willd.) were also noted at the collection site. The South Dakota record represents a southward extension of the previously documented range of *C. pseudocyperus*.

Voucher specimen: **SOUTH DAKOTA. Codington Co.:** T 119N, R 51W, Sec. 14, SE ¼; Round Lake Public Access Area; common in flow-through cattail marsh on south side of Round Lake, 6 Sep 2003, *Gary E. Larson and Aquatic Plants class, s.n.*

Galium circaezans Michx. var. **hypomalacum** Fern. (Rubiaceae), woods bedstraw. This finding is a local northward range extension from northern Nebraska where the species is found in woodlands along the Niobrara River and its tributaries (Kaul et al. 2006).

Voucher specimen: **SOUTH DAKOTA. Clay Co.:** 42.77°, - 97.12°; Myron Grove, old floodplain forest on Missouri River floodplain, shaded understory; occasional, 19 Jun 2008, *Gary E. Larson 11298*.

Eriochloa villosa (Thunb.) Kunth (Poaceae), hairy cupgrass. This introduced agricultural weed from East Asia has spread into eastern South Dakota from farther east in the Corn Belt and has become more common and widespread since the original 1983 collection. Northward and westward expansion in the state is expected.

Voucher specimens: **SOUTH DAKOTA. Deuel Co.:** 5 mi NW of Toronto; weed in cultivated field, August 1983, *Leon J. Wrage s.n.* **Minnehaha Co.:** 3 mi E, 2 mi N of Garretson in field, 14 July 1986, *Mark Peterson 96*. **Brookings Co.:** South Dakota State Univ. campus; north side of machine storage building at Foundation Seed; disturbed, gravelly soil, 8 Sep 1997, *Gary E. Larson s.n.*

Glaux maritima L. (Primulaceae), sea milkwort. Sea milkwort is otherwise frequent in North Dakota and scattered in western Nebraska where it favors alkaline seeps.

Voucher specimen: **SOUTH DAKOTA. Perkins Co.:** Grand River National Grassland; T 23N, R 11E, Sec. 35, SW ¼; sandstone bank of North Fork of Grand River, sandy textured soil; uncommon, 14 Jun 2002, *Christopher Kopp 207*.

Lechea stricta Leggett ex Britton (Cistaceae), prairie pinweed. Prairie pinweed is a psammophilous species found widely scattered in the eastern Nebraska Sand Hills (Kaul et al. 2006) and in Sheyenne National Grasslands of southeastern North Dakota and Bowman County of southwestern North Dakota (Great Plains Flora Association 1977).

Voucher specimens: **SOUTH DAKOTA. Marshall Co.:** T 128N, R 59W, Sec. 6, SE ¼; moderately to heavily grazed sand hills prairie; moist depression with *Poa pratensis*, *Euthamia gymnospermoides*, *Antennaria* sp.; rare, 15 Aug 1996, *Gary E. Larson 11686 & Eric Fairlee*, and T 128N, R 59W, Sec. 19, SE ¼; moderately to lightly grazed sand hills prairie; dry sandy sites, temporarily wet in spring; uncommon, 22 Aug 1996, *Gary E. Larson 11767 & Eric Fairlee*.

Lipocarpa micrantha (Vahl) G. Tucker (Cyperaceae), smallflower halfchaff sedge. *Lipocarpa micrantha* (formerly *Hemicarpha m.*) is otherwise known from eastern and central Nebraska and with disjunct records from Cass County, ND and Becker County, MN (Larson 1993).

Voucher specimens: **SOUTH DAKOTA. Brown Co.:** T 128N, R 60W, Sec. 24, NE ¼; sand hill pasture grazed through mid July; choppy sand hills and wet depressions; margin of moist depression, in cow path with *Cyperus squarrosus*; occasional, 16 Aug 1996, *Gary E. Larson 11702 & Eric Fairlee*, and T 127N, R 61W, Sec. 14, SW ¼; level to rolling non-native pasture on loamy fine sand, lightly grazed; locally common in moist or drying soil in shallow depressions, usually where grazed, 22 Jul 1997, *Eric Fairlee 196 & Stacy Severding*.

Monotropa uniflora L. (Monotropaceae), Indianpipe. This nongreen saprophyte has been otherwise found

in eastern Nebraska and Ransom County of southeastern North Dakota (Kaul et al. 2006; Great Plains Flora Association 1977). Saunders (1899) reported this species as occurring "in deep, wooded ravines in the Minnesota Valley, Roberts County" of northeastern South Dakota; however, no specimen evidence is known to substantiate Saunders' report, and until now, there were no other accountings of the species in South Dakota.

Voucher specimen: **SOUTH DAKOTA. Minnehaha Co.:** T 101N, R 48W, Sec. 28, SW ¼ of SW ¼; in small grove of bur oak along drainage in horse pasture, just upstream of pond created by a small dam; noted by landowners who were concerned about possibility for plants to poison horses, submitted to Minnehaha County Extension Office for identification, 24 Sep 2008, *Robert and Shirley Phelan s.n.*

Najas minor L. (Najadaceae), brittle water nymph. This is the first record of this invasive annual aquatic plant in South Dakota, and given its history of spread in the eastern U.S. since introduction from Europe in the 1930s (Invasive.org: <http://www.invasive.org/species/subject.cfm?sub=3056>, accessed Oct. 27, 2009), it is to be expected elsewhere, especially in recreational waters where dispersal by watercraft is likely.

Voucher specimens: **SOUTH DAKOTA. Union Co.:** 42.5378°, -96.5073°; reported as a nuisance plant in shallow to deep water of McCook Lake, mid Aug 2006, *Bruce Johnson and Scott Gerkin s.n.*, collected again from McCook Lake the following year, 19 Jul 2007 by *David J. Ode 07-3*.

Purshia tridentata (Pursh) DC. (Rosaceae), antelope bitterbrush. Dorn (1977) includes *Purshia tridentata* as a species that should occur in the Black Hills but had not been documented there (as indicated by asterisk on the name). Otherwise the shrub is widespread in the mountains of Wyoming and westward. It is apparently uncommon in the western portion of the Black Hills and has simply gone undetected up to this point.

Voucher specimen: **SOUTH DAKOTA. Custer Co.:** 43.5346633°, -103.520889°, adjacent to Song Dog Road and at edge of the Windy Point Fire of 1988, located about 2 m from edge of road, uncommon, 14 Aug 2001, *Chad Lehman 200*.

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